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EXAMINER

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 17

Application Number: 09/316,580

Filing Date: May 21, 1999

Appellant(s): LINN ET AL.

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Lee J. Fleckenstein
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5/24/01 and the amendment of revised appeal brief filed on 8/27/01.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Examiner withdraws the final rejection of claims 1, 7 and 19 under 35 U.S.C. §112, first paragraph.

Examiner withdraws the final rejection of claim 10 (d) (the interconnected transistors in and at a surface of said device layer) under 35 U.S.C. §112, first paragraph.

Since claim 11 has been canceled in the amendment filed on 5/24/01, the final rejection of claim 11 under 35 U.S.C. §112, first paragraph, is moot in view of the amendment.

Claims 4, 5, 10 and 13-22 are still finally rejected under 35 U.S.C. §112, first paragraph, as containing subject matter that was not described in the specification in

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such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Examiner withdraws the final rejection of claim 10 (lines 2-3, "it is unclear how the first dielectric layer comprising a first bonding material", lines 6-7 "it is unclear how the second dielectric layer comprising a second bonding material") under 35 U.S.C. §112, second paragraph.

Claim 10 (line 7, ".....a a.....") and claim 13 (lines 2-3) are still finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner withdraws the final rejection of claims 10, 11, 13, 14, 16, and 19-22 under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Iwamatsu.

Examiner withdraws the final rejection of claims 15 and 17 under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Iwamatsu and Sugimoto et al.

Examiner withdraws the final rejection of claims 10, 16, and 18 under 35 U.S.C. §103(a) as being unpatentable over Ochiai in view of Kameyama et al., and further in view of Iwamatsu.

Claims 1-4 are still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al.

Claim 5 is still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Sugimoto et al.

Claims 7-9 are still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Ochiai in view of Kameyama et al.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct except the following minor errors.

In the Amendment filed November 2, 1999, claims 14, 15 and 18 were also amended.

(5) Summary of Invention

The summary of invention contained in the brief is deficient because of the following errors:

Amended claim 1 is directed to a substantially continuous silicide layer over the handle die of a silicon-on-insulator integrated circuit and a substantially continuous first dielectric layer that overlies one side of the silicide layer. Amended claim 1 never directed to a substantially continuous and unbroken silicide layer over the handle die of a silicon-on-insulator integrated circuit and a substantially continuous and unbroken first dielectric layer that overlies one side of the first dielectric layer.

Amended claim 7 is directed to a substantially continuous silicide layer having a controlled resistance that is formed on the first dielectric layer and provides a diffusion barrier to impurities, and a substantially continuous second dielectric layer disposed between the silicide layer and a device silicon layer. Amended claim 7 never directed to

a substantially continuous and unbroken silicide layer having a controlled resistance that is formed on the first dielectric layer and provides a diffusion barrier to impurities, and a substantially continuous and unbroken second dielectric layer disposed between the silicide layer and a device silicon layer.

The specification never discloses a silicide layer bonded by the first bonding material to the first dielectric layer and the second dielectric layer is bonded to the silicide layer and device layer by the second bonding material, and the silicide layer includes a third bonding material that bonds the silicide layer to the handle die and the device wafer as claimed in claim 10.

Claim 4 does not read on page 7, lines 22-26 and fig. 4a.

Claim 5 does not read on page 7, lines 27-29 and fig. 4a.

Claim 13 does not read on page 9, lines 7-13.

Claim 15 does not read on page 11, lines 2-16 and fig. 6.

Claim 17 does not read on page 11, lines 2-10 and fig. 6.

Claim 19 does not read on figs 3a-b.

Claim 22 does not read on page 10, lines 28-32.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

Examiner withdraws the final rejection of claims 1, 7 and 19 under 35 U.S.C. §112, first paragraph.

Examiner withdraws the final rejection of claim 10 (d) (the interconnected transistors in and at a surface of said device layer) under 35 U.S.C. §112, first paragraph.

Since claim 11 has been canceled in the amendment filed on 5/24/01, the final rejection of claim 11 under 35 U.S.C. §112, first paragraph, is moot in view of the amendment.

Claims 4, 5, 10 and 13-22 are still finally rejected under 35 U.S.C. §112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Examiner withdraws the final rejection of claim 10 (lines 2-3, "it is unclear how the first dielectric layer comprising a first bonding material", lines 6-7 "it is unclear how the second dielectric layer comprising a second bonding material") under 35 U.S.C. §112, second paragraph.

Claim 10 (line 7, ".....a a.....") and claim 13 (lines 2-3) are still finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner withdraws the final rejection of claims 10, 11, 13, 14, 16, and 19-22 under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Iwamatsu.

Examiner withdraws the final rejection of claims 15 and 17 under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Iwamatsu and Sugimoto et al.

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Examiner withdraws the final rejection of claims 10, 16, and 18 under 35 U.S.C. §103(a) as being unpatentable over Ochiai in view of Kameyama et al., and further in view of Iwamatsu.

Claims 1-4 are still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al.

Claim 5 is still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Moslehi in view of See et al., and further in view of Sugimoto et al.

Claims 7-9 are still finally rejected under 35 U.S.C. §103(a) as being unpatentable over Ochiai in view of Kameyama et al.

(7) Grouping of Claims

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because the appellants do not provide a reason why claims 1-5 do not stand or fall together.

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because the appellants do not provide a reason why claims 10 and 13-22 do not stand or fall together.

(8) Claims Appealed

A substantially correct copy of appealed claims 1-5, 7-10 and 13-22 appears on the Amended Appendix (filed on 8/27/01) to the appellant's brief. The minor errors are as follows:

Original claim 4, line 2 discloses "doped buried layers" instead of "deep buried layers" in lines 1-2, claim 4 of the Amended Appendix.

(9) Prior Art of Record

5,102,821	Moslehi	4-1992
5,212,397	See et al.	5-1993
5,378,919	Ochiai	1-1995
2-206118	Sugimoto et al.	8-1990
64-73659	Kameyama et al.	3-1989

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Since the present application is a continuation of a series of applications and has an effective filing date dated back to September 3, 1992, the specification of the present application is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows:

In the specification,

Page 4, lines 9-11, "The silicide layer comprises bonding material that differs from material in the portion of the handle die adjacent the silicide layer and also differs from material in the portion of the device layer adjacent the silicide layer."

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In the abstract,

Lines 18-21, "The silicide layer comprises bonding material that differs from material in the portion of the handle die adjacent the silicide layer and also differs from material in the portion of the device layer adjacent the silicide layer."

2. Claims 4, 5, 10 and 13-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification never discloses the device silicon layer includes doped buried layers abutting the dielectric layer as claimed in claim 4.

The specification never discloses the second dielectric layer comprises diamond as claimed in claim 5.

The original specification in the parent application never discloses the second dielectric layer being bonded to the device layer by the second bonding material as claimed in claim 10.

The specification never discloses the silicide layer comprises a third bonding material that bonds the silicide layer to the handle die and the device wafer as claimed in claim 10.

The original specification in the parent application never discloses the claimed subject matters as claimed in claims 13, 15, 17, and 22.

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3. Claims 10 and 13-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, line 7, ".....a a....." is not understood.

In claim 13, lines 2-3, ".....said first dielectric layer is silicon dioxide portion adjacent said homogeneous silicide layer]" is not understood.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moslehi in view of See et al.

Moslehi shows a SOI structure in figs. 2a-2f. It comprises: an oxide layer [22] formed on a Si substrate [20]; a silicide layer [40] formed on the layer [22]; insulating layers [32, 34, 36] formed on layer [40]; a Si substrate [26] formed on layer [32].

Moslehi differs from the claimed invention by not showing transistors formed on the Si substrate.

See et al. shows bipolar and MOS transistors [28, 30] formed on a Si substrate in fig.

1.

Since both Moslehi and See et al. teach a SOI structure, it would have been obvious to have the transistors of See et al. in Moslehi because they are widely used transistor devices.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moslehi in view of See et al., further in view of Sugimoto et al.

Moslehi differs from the claimed invention by not showing the dielectric layer is made of diamond.

Sugimoto et al. shows the dielectric layer [2] is made of diamond in fig. 1.

Since both Moslehi and Sugimoto et al. teach a SOI substrate, it would have been obvious to have the diamond-insulating layer of Sugimoto et al. in Moslehi because it prevents a heat-dissipating property from being lowered.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ochiai in view of Kameyama et al.

Ochiai discloses a semiconductor device in figs. 7-8. It comprises: a plurality of thin film transistors formed on an insulating layer [51, 55] formed on a Si substrate [50]; a resistance layer [52] formed under each of the transistors.

Ochiai differs from the claimed invention by not showing the resistance layer is made of silicide.

Kameyama et al. shows a tungsten silicide resistor [120a] in figs. 3 and 4.

Since both Ochiai and Kameyama et al. teach a resistor, it would have been obvious to have the resistor of Kameyama et al. in Ochiai because it is a widely used resistance material.

(11) Response to Argument

In response to Appellants' argument in page 6 of the Appeal Brief, it is urged that the appellants' Amendment under 37 CFR §1.116 would overcome the final rejection of claims 4, 5, 10, and 13 under 35 U.S.C. §112, first and second paragraphs. However, the proposed amendments to the claims would not consider by the examiner because they raised new issue that would require further consideration and /or search.

Therefore, claims 4, 5, 10 and 13 are still rejected under 35 U.S.C. §112, first paragraph, as set forth in the final office rejection and claims 10 and 13 are still rejected under 35 U.S.C. 112, second paragraph, as set forth in the final office action.

In response to Appellants' argument in page 7 of the Appeal Brief, it is urged that the description of FIGS. 5a-b on page 9, lines 5-21 provides support for the sentence "The silicide layer comprises bonding material that differs from material in the portion of the handle die adjacent the silicide layer and also differs from material in the portion of the device layer adjacent the silicide layer." that appeared at page 4, lines 9-11 of the specification and at page 16, lines 18-21 of the abstract. However, only the preliminary structure of the device, as described in fig. 5a and page 9, lines 7-21 of the written description, discloses a structure that comprises bonding materials formed between the handle die and the device silicon layer. Fig. 5a discloses a semiconductor structure comprises: a handle die [512]; a first dielectric layer (oxide layer [513]); a first bonding material (polysilicon [514]); a tungsten layer [518]; a second bonding material (polysilicon layer [517]); a third bonding material (oxidizer [505]) formed on the first

bonding material [514]; a second dielectric layer (oxide [506]) and the device wafer [502]. The preliminary structure (fig. 5a) does not disclose a silicide layer or a silicide layer comprises bonding material that differs from material in the portion of the handle die [512] adjacent the silicide layer and also differs from material in the portion of the device layer [502] adjacent the silicide layer. Even though the final structure of the device (fig. 5b) discloses a silicide layer (WSi_2) [515] formed between the device wafer [502], a second dielectric layer (oxide layer [506]), and a handle die [512], a first dielectric layer (oxide [513]) and a silicon oxynitride layer (SiO_xN_y [519]), the silicide layer [515] does not comprise bonding material that differs from material in the portion of the handle die [512] adjacent the silicide layer [515] and also differs from material in the portion of the device layer [502] adjacent the silicide layer [515]. The silicon oxynitride layer [519] is an independent dielectric layer that differs from the silicide layer [515] (page 10, lines 11-19 of the written description).

In response to Appellants' argument in page 8 of the Appeal Brief, it is urged that the support of claim 4 is disclosed in page 7, lines 22-26, and fig. 4a. However, none of the embodiment of the present application discloses a structure having the elements of both independent claim 1 and dependent claim 4. Claim 1 only discloses a structure in fig. 3f of the present application. The structure in fig. 3f of the present application never discloses the doped buried layers abutting the dielectric layer.

In response to Appellants' argument in page 8 of the Appeal Brief, it is urged that the support of claim 5 is disclosed in page 7, lines 27-29, and fig. 4a. However, none of the embodiment of the present application discloses a structure having the elements of both

independent claim 1 and dependent claim 5. Claim 1 only discloses a structure in fig. 3f of the present application. The structure in fig. 3f of the present application never discloses the second dielectric layer comprises diamond.

In response to Appellants' argument in page 8 of the Appeal Brief, it is urged that the support of claim 10 is disclosed in page 9, lines 5-21, page 10, lines 1-9, and figs. 5a-b. It is also urged that device wafer [502] bonded to second dielectric layer [513] by tungsten silicide formed from reaction of polysilicon layer [517] with tungsten layer [518]. However, as shown in fig. 5a, the first dielectric layer is directed to layer [513], which comprises a first bonding material [514] and formed directly on the handle die [512]. The second dielectric layer is directed to layer [506] which comprising a second bonding material [517] and formed directly on the device wafer [502]. In addition, the written description discloses the device wafer [502] has a 500-angstrom thick thermal oxide layer [506] formed on it. Neither the written specification nor figs. 5a-b discloses the second dielectric layer [506] being bonded to the device layer [502] by the second bonding material.

In response to Appellants' argument in pages 8-9 of the Appeal Brief, it is urged that the claimed subject matters of claim 10 is disclosed in page 9, line 30 to page 10, line 19, and figs. 5a-b. However, the preliminary structure of the third embodiment (fig. 5a) discloses the third bonding material (oxidizer [505]) is formed between a tungsten layer [518] and the first bonding material (polysilicon layer [514]). The third bonding material (oxidizer [505]) only bonds to the first bonding material (polysilicon layer [514]) and the tungsten layer [518]. There is no silicide layer comprises a third bonding material that

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bonds the silicide layer to the handle die and the device wafer. Although the final structure of the third embodiment (fig. 5b) discloses a silicide (WSi_2) layer [515], there is no first bonding material (polysilicon layer [514]), second bonding material (polysilicon layer [517]) and the third bonding material (oxidizer [515]) in the structure of fig. 5b.

Claim 10 requires the first, second and third bonding materials must be present in the structure. There are only handle die [512], oxide layer [513], silicon oxynitride (SiOxNy) layer [519], oxide layer [506] and the device wafer [502] formed adjacent to the silicide layer [515] in the final structure of the third embodiment. Therefore, the specification never discloses the silicide layer comprises a third bonding material that bonds the silicide layer to the handle die and the device wafer as claimed in claim 10.

In response to Appellants' argument in page 9 of the Appeal Brief, it is urged that claim 13 is supported by the specification in page 9, lines 7-13. However, the specification only discloses thermally oxidize handle wafer [512] to form oxide layer [513]. The specification never discloses the first dielectric layer (oxide layer [513]) is silicon dioxide as claimed in claim 13.

In response to Appellants' argument in page 9 of the Appeal Brief, it is urged that claims 15 and 17 are supported by the specification in page 11, lines 2-16 and fig. 6. However, none of the embodiment in the present application discloses a structure having the elements of claims 10 and 15 or claims 10, 16 and 17. The structure of fig. 5a or fig. 5b never discloses the claimed subject matters of claims 15 and 17.

In response to Appellants' argument in page 9 of the Appeal Brief, it is urged that claim 22 is supported by the specification in page 10, lines 28-32. As mentioned in the

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previous argument, the third bonding material is directed to the oxidizer [505]. The third bonding material is not a silicide of a metal selected from the group consisting of cobalt, platinum, tungsten, and titanium as claimed in claim 22.

In response to Appellants' argument in page 10 of the Appeal Brief, it is urged that figs. 2e-2f of Moslehi structure does not disclose a continuous, unpatterned silicide area overlies a silicon handle die. It is also urged that the Moslehi structure, on the other hand, includes, as shown in Figures 2e-f, a layer containing both a silicide [40] and a metal (e.g., titanium [24]) in a grid pattern over oxide layer [22]. However, it is important to note that claim 1, paragraph (b), discloses a substantially continuous silicide layer over the handle die. Claim 1 never discloses a continuous, unpatterned silicide layer over the handle die. Therefore, it is unnecessary for Moslehi to show a continuous, unpatterned silicide layer over the handle die. As shown in figs. 2d of Moslehi, a grid pattern of polycrystalline silicon layer [38] is formed on a second wafer [26, 28, 30]. The polycrystalline silicon layer [38] is a continuous layer with one portion of the layer continuously connected to all other portions of the layer. The silicon layer [38] is then bonded with a titanium layer [24] of the first wafer (col. 3, lines 1-51). The process results in the formation of TiSi_2 (titanium silicide) [40] where the polycrystalline silicon layer [38] of the second wafer and the titanium layer [24] of the first wafer meet, creating a very strong chemical bond between the two wafers. Since the polycrystalline silicon layer [38] is a continuous, grid-patterned layer, the TiSi_2 (titanium silicide) layer [40] is also a continuous, grid-patterned layer formed on the handle die [20]. The titanium silicide layer [40] of Moslehi does meet the limitation of claim 1, paragraph (b).

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In response to Appellants' argument in page 10 of the Appeal Brief, it is urged that the structure of Moslehi can be further differentiated in several other important respects. However, claim 1 discloses a structure shown in fig. 3f of the present invention. Claim 1 does not disclose a structure shown in figs. 4a-d of the present invention. Therefore, it is not necessary for Moslehi to show the elements in figs. 4a-d.

In response to Appellants' argument in pages 10-11 of the Appeal Brief, it is urged that the metal-metal silicide grid structure of Moslehi is clearly deficient as a diffusion barrier, as evidenced by the disclosure of and claims to an additional separate diffusion resistant layer of nitride adjacent to an oxide layer. However, it is well known in the art that a metal silicide, especially titanium silicide, can prevent diffusion of harmful ions into the device layer. The harmful ions, such as sodium, can degrade the active device layer. Therefore, the titanium silicide of Moslehi acts as a diffusion barrier to prevent sodium ions enter into the active device layer [30]. The additional separate diffusion resistant layer of nitride [34] of Moslehi is also used to prevent sodium ions diffuse into the device layer [30]. The titanium silicide layer of Moslehi serves both as a bonding layer and as a diffusion barrier.

In response to Appellants' argument in page 11 of the Appeal Brief, it is urged that there are gross dissimilarities between appellants' structure and those of Moslehi. However, as explained in the above paragraphs, the structure of Moslehi does read on a part of the claimed invention. The combination of Moslehi and See et al. further shows all the required elements of the claimed invention. Similarly, the combination of

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Moslehi, See et al. and Sugimoto et al. further shows the required element of the dependent claim.

In response to Appellants' argument in page 10 of the Appeal Brief, it is urged that Ochiai semiconductor structure is a "sea-of-gate array "and thus includes no trenches to define islands. However, a portion of the insulating layer [55] of Ochiai, formed between the n-type region [60] and the n-type source drain region [57] of the transistor, isolates the transistors in a gate array. In addition, a portion of the insulating layer [51] of Ochiai, formed between the resistance layers [52], isolates the resistance layers [52] from each other. The area, which is covered by the portion of the insulating layer [55] and the portion of the insulating layer [51], is considered as a trench before the deposition of the portion of the insulating layer [55] and the deposition of the portion of the insulating layer [51]. Ochiai does disclose trenches extending through the device layer and the resistance layer and separating the device layer into islands.

In response to Appellants' argument in page 10 of the Appeal Brief, it is urged that Ochiai makes no mention whatsoever of silicides. However, Ochiai teaches a resistance layer formed under each of the device islands of the gate array. Although Ochiai does not specify the material of the resistance layer, it is well known in the art that metal silicide, such as tungsten silicide of Kameyama et al., is a resistance material. The combination of Ochiai and Kameyama et al. teaches a silicide resistance layer formed under a device active layer. It also urged that Kameyama et al. discloses a patterned polycrystalline tungsten silicide resistor thin film instead of a silicide layer, which is substantially continuous and unbroken. However, claim 7, paragraph (c), only

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discloses a substantially continuous silicide formed on the first dielectric layer. Claim 7 never discloses a substantially continuous and unbroken silicide layer formed on the first dielectric layer. Therefore, it is not necessary for the prior art to show a substantially continuous and unbroken silicide formed on the first dielectric layer. In addition, it is important to note that the final structure of claim 7 shows a silicide layer formed under each of the device islands. The continuous silicide layer and the continuous second dielectric layer of claim 7, paragraphs (c) and (d), are being broken up into individual pieces by the trenches through the device silicon layer and silicide layer. The final structure of claim 7 does not include a continuous silicide layer formed on the first dielectric layer as claimed in claim 7, paragraph (c). It is also urged that neither Ochiai nor Kameyama et al. discloses a silicide layer providing a diffusion barrier to impurities. However, it is well known in the semiconductor art that tungsten silicide is a diffusion barrier material that blocks harmful ions, such as sodium, into the device silicon layer through the silicon oxide in a silicon-on-insulator (SOI) device.

In response to Appellants' argument in pages 12-13 of the Appeal Brief, it is urged that the patent laws, rules, and MPEP provide no basis for an objection or rejection as described in the second paragraph on page 7 of the January 6, 2000 Office Action.

However, 35 U.S.C. 112 first paragraph requires:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The written description of the present invention (page 3, line 22 to page 12, line 22) discloses five different embodiments of the invention and the embodiments with the

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modifications and variations of the five different embodiments. However, the written description does not disclose the exact modifications and the variations of the five different embodiment. The original written description of parent applications of the present application never discloses the buried layers of claim 4 and the diamond layer of claim 5 can be formed in the device of fig. 3f or fig. 3g. In regards to claim 4, the written description only discloses the doped buried layers are only formed in the device of fig. 6 which does not include the second dielectric layer on the handle die underlying the opposite side of the silicide layer. In regards to claim 5, the written description only discloses the insulating film [316] of fig. 3f can be a diamond. The written description never discloses the second dielectric layer [346] of fig. 3f is made of diamond. Since there is no support in the original parent applications for the claimed buried layers of claim 4 and the diamond layer of claim 5, claims 4 and 5 of the present application introduced new matters in the claimed invention.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,


Steven Loke
Primary Examiner





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December 11, 2001

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